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AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 10/034,689 Filing Date: December 28, 2001 Dkt: 1488.015US1

Title: A METHOD OF NETWORK MODELING AND PREDICTIVE EVENT CORRELATION IN A COMMUNICATION SYSTEM BY THE USE OF CONTEXTUAL FUZZY COGNITIVE MAPS

IN THE DRAWINGS

Enclosed are Replacement Sheets with a corrected FIG. 1.

Enclosed is a copy of FIG. 1 of the drawings showing the following proposed amendment to FIG. 1 in red ink.

A reference number, 166, was added to FIG. 1, corresponding to the text in the detailed description.

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REMARKS

This responds to the Office Action mailed on April 22, 2005, and the references cited therewith.

Claims 6, 10, 27, 30, 37, 46, and 50 are amended. Claims 1-63 are now pending in this application.

Claim Objections

Claims 4, 27, 28, and 58 were objected to because of the following alleged informalities: In claim 4 and claim 28, it appears from the specification that only one system exists. This objection is respectfully traversed. At page 8, lines 10-12, the specification recites: "The communication network 110 can be an explicit system, implicit system, centralized system, partially centralized system, and/or distributed system." Claims 4 and 28 recite that the system is selected from these systems. It does not directly recite multiple systems. In claim 27 "to" in front of evaluate is missing. The claim has been appropriately amended. Claim 58 has been amended to properly refer to claim 57.

§112 Rejection of the Claims

Claims 6, 10, 30, 37, 46 and 50 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness. Appropriate corrections were made solely in response to the this rejection and not in view of any art. The claims were not narrowed by such amendments.

§102 Rejection of the Claims

Claims 1-18, 22-31, 33-39, 41-58, and 62-63 were rejected under 35 U.S.C. § 102(b) for anticipation by Thomas Ndousse et al., "Computational Intellegence for Distributed Fault Management in Networks Using Fuzzy Congnitive Maps", <u>Proceedings of the 1996 IEEE International Conference on Communications</u>, (June 23-27, 1996), pp. 1558-1562. This rejection is respectfully traversed, as the reference does not show each and every element of the invention as claimed.

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Claim 1 recites several elements that were not found in the reference. The first element of claim 1 recites the inclusion of causally equivalent FCM fragments using network element interdependencies derived from a database defining the network managed objects and event notifications that convey the state of one or more managed objects. The reference does not appear to discuss FCM fragments, only FCMs. Further, it does not describe creating FCM fragments using network element interdependencies derived from a database. Still further, no mention was found regarding event notifications that convey the state of one or more managed objects.

Claim 1 further recites sampling generated incoming real-time events from the system. No mention of such sampling is found in the reference. Claim 1 finally recites diagnosing problems by mapping the sampled events to the formed FCM fragments. No mention of this aspect of actually using FCM to diagnose problems if found in the reference. Thus, while the reference may describe the use of FCM to represent the distributed properties of fault propagation, it does not describe how to use it in a practical real time environment, and further does not describe how to map sampled events to FCM fragments as claimed. Since each and every element is not in the reference, a proper prima facie case of anticipation has not been established, and the rejection should be withdrawn.

Claims 2-18 depend from claim 1 and distinguish the reference for at least the same reasons. Applicant reserves the right to point out further distinctions in such claims at a later date.

Claim 22 is similar to claim 1 in that it also recites the use of FCM fragments, sampling, and mapping the sampled events to formed FCM fragments. As stated with respect to claim 1, the reference does not disclose these elements. Further, the language in the reference pointed to in the Office Action as doing so, (1558, left col.) actually points to the background of the reference, which does not describe FCMs.

Claims 23-24 depend from claim 22 and distinguish the reference for at least the same reasons.

Claim 25 is similar to claim 1 expressed in computer readable medium format, and distinguishes the reference for at least the same reasons as does claim 1. Claims 26-31 depend from claim 25.

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Claims 33-39 are similar to claim 1 and distinguish the reference for at least the same reasons.

Claims 41-58 and 62-63 contain recitations similar to claim 1 and also distinguish the reference for at least the same reasons.

§103 Rejection of the Claims

Claims 19-21, 32, 40, and 59-61 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ndousse as applied to claims 1-18, 22-31, 33-39, 41-58, 62-63, in view of Zhi-Qiang Liu et al., "Contextual Fuzzy Cognitive Map for Decision Support in Geographic Information Systems", IEEE Transactions on Fuzzy Systems, 7, (Oct., 1999), p. 495-507, and further in view of Thierry Marchant, "Cognitive Maps and Fuzzy Implications", European Journal of Operational Research, 114, (May 1, 1999), p. 626-637. This rejection is respectfully traversed. Each of the claims depend from a claim that is believed allowable in view of arguments made above, and as such, should also be allowed.

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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<u>CERTIFICATE UNDER 37 CFR 1.8:</u> The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 4 day of October, 2005.

JONATHAN FERGUSON

Name

Signature



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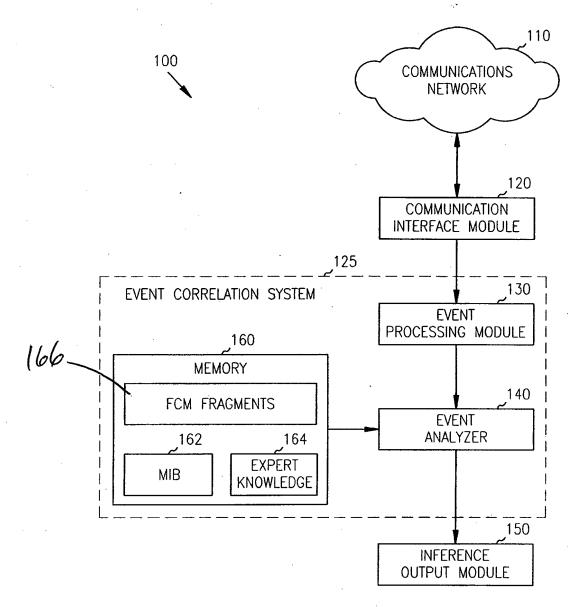


FIG. 1